



SEQUENCE LISTING

Cahoon, Edgar B

<120> A Cytochrome P450 enzyme associated with the synthesis of delta-12-  
epoxy fatty acids

<130> BB1465 US NA

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<150> 60/219833

<151> 2000-07-21

<160> 7

<170> Microsoft Office 97

<210> 1

<211> 1733

<212> DNA

<213> Euphorbia lagascae

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<212> PRT

<213> Euphorbia lagascae

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Pro Pro Pro Gly Pro Trp Lys Phe Pro Ile Ile Gly Asn Leu Pro His  
35 40 45

Leu Leu Leu Thr Ser Asp Leu Gly His Glu Arg Phe Arg Ala Leu Ala  
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Gln Ile Tyr Gly Pro Val Met Ser Leu Gln Ile Gly Gln Val Ser Ala  
65 70 75 80

Val Val Ile Ser Ser Ala Glu Ala Ala Lys Glu Val Met Lys Thr Gln  
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Ala Asp Ala Phe Ala Gln Arg Pro Ile Val Leu Asp Ala Gln Ile Val  
100 105 110

Phe Tyr Asn Arg Lys Asp Val Leu Phe Ala Ser Tyr Gly Asp His Trp  
115 120 125

Arg Gln Met Lys Lys Ile Trp Ile Leu Glu Phe Leu Ser Ala Lys Lys  
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Val Gln Ser Ser Arg Leu Ile Arg Glu Glu Met Glu Asp Ala Ile  
145 150 155 160

Thr Phe Leu Arg Ser Lys Ala Gly Ser Pro Val Asn Ile Thr Lys Ile  
165 170 175

Ile Tyr Gly Ile Ile Ser Ile Met Ile Arg Thr Ser Val Gly Asn  
180 185 190

Cys Lys Gln Lys Glu Arg Leu Leu Ser Val Ala Asp Ala Val Asn Glu  
195 200 205

Ala Ala Thr Ser Phe Gly Thr Ala Asp Ala Phe Pro Thr Trp Lys Leu  
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Leu His Tyr Ile Ile Gly Ala Glu Ser Lys Pro Arg Arg Leu His Gln  
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Glu Ile Asp Asp Ile Leu Glu Glu Ile Leu Asn Glu His Lys Ala Asn  
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Lys Pro Phe Glu Ala Asp Asn Leu Met Asp Val Leu Leu Asn Leu Gln  
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Lys Asn Gly Asn Val Pro Val Pro Val Thr Asn Glu Ser Ile Lys Ala  
275 280 285

Ser Val Leu Gln Met Phe Thr Ala Gly Ser Glu Thr Thr Ser Lys Ala  
290 295 300

Thr Glu Trp Val Met Ala Glu Leu Met Lys Asn Pro Thr Glu Leu Arg  
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Lys Ala Gln Glu Glu Val Arg Gln Val Phe Gly Glu Met Gly Lys Val  
325 330 335  
Asp Glu Ser Arg Phe His Asp Leu Lys Phe Phe Lys Leu Val Val Lys  
340 345 350  
Glu Thr Leu Arg Leu His Pro Pro Val Val Leu Ile Pro Arg Glu Cys  
355 360 365  
Arg Glu Thr Thr Arg Ile Asp Gly Tyr Glu Ile His Pro Asn Thr Arg  
370 375 380  
Ile Val Val Asn Ala Trp Ala Ile Gly Arg Asp Pro Asn Thr Trp Ser  
385 390 395 400  
Glu Pro Gly Lys Phe Asn Pro Glu Arg Phe Lys Asp Cys Ala Ile Asp  
405 410 415  
Tyr Lys Gly Thr Thr Phe Glu Leu Val Pro Phe Gly Ala Gly Lys Arg  
420 425 430  
Ile Cys Pro Gly Ile Thr Ser Ala Ile Thr Asn Leu Glu Tyr Val Ile  
435 440 445  
Ile Asn Leu Leu Tyr His Phe Asn Trp Glu Leu Ala Asp Gly Ile Thr  
450 455 460  
Pro Gln Thr Leu Asp Met Thr Glu Ala Ile Gly Gly Ala Leu Arg Lys  
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20 25 30  
Pro Pro Gly Pro Trp Lys Leu Pro Phe Ile Gly Ser Leu His His Leu  
35 40 45  
Ala Val Ala Gly Pro Leu Pro His His Gly Leu Lys Asn Leu Ala Lys  
50 55 60  
Leu Tyr Gly Pro Leu Met His Leu Arg Leu Gly Glu Ile Pro Thr Val  
65 70 75 80

Ile Ile Ser Ser Pro Arg Met Ala Lys Glu Val Leu Lys Thr His Asp  
85 90 95

Leu Ala Phe Ala Thr Arg Pro Lys Leu Val Val Ala Asp Ile Val His  
100 105 110

Tyr Asp Ser Thr Asp Ile Ala Phe Ser Pro Tyr Gly Glu Tyr Trp Arg  
115 120 125

Gln Ile Arg Lys Ile Cys Ile Leu Glu Leu Leu Ser Ala Lys Met Val  
130 135 140

Lys Phe Phe Ser Ser Ile Arg Gln Asp Glu Leu Ser Met Met Val Ser  
145 150 155 160

Ser Ile Arg Thr Met Pro Asn Phe Pro Val Asn Leu Thr Asp Lys Ile  
165 170 175

Phe Trp Phe Thr Ser Ser Val Thr Cys Arg Ser Ala Leu Gly Lys Ile  
180 185 190

Cys Arg Asp Gln Asp Lys Leu Ile Ile Phe Met Arg Glu Ile Ile Ser  
195 200 205

Leu Thr Gly Gly Phe Ser Ile Ala Asp Phe Phe Pro Thr Trp Lys Met  
210 215 220

Leu His Asp Val Gly Gly Ser Lys Thr Arg Leu Leu Lys Ala His Arg  
225 230 235 240

Lys Ile Asp Glu Ile Leu Glu His Val Val Asn Glu His Lys Gln Asn  
245 250 255

Arg Ala Asp Gly Gln Lys Gly Asn Gly Glu Phe Gly Gly Glu Asp Leu  
260 265 270

Ile Asp Val Leu Leu Arg Val Arg Glu Ser Gly Glu Val Gln Ile Ser  
275 280 285

Ile Thr Asp Asp Asn Ile Lys Ser Ile Leu Val Asp Met Phe Ser Ala  
290 295 300

Gly Ser Glu Thr Ser Ser Thr Thr Ile Ile Trp Ala Leu Ala Glu Met  
305 310 315 320

Met Lys Lys Pro Ser Val Leu Ala Lys Ala Gln Ala Glu Val Arg Gln  
325 330 335

Val Leu Lys Glu Lys Lys Gly Phe Gln Gln Ile Asp Leu Asp Glu Leu  
340 345 350

Lys Tyr Leu Lys Leu Val Ile Lys Glu Thr Leu Arg Met His Pro Pro  
355 360 365

Ile Pro Leu Leu Val Pro Arg Glu Cys Met Lys Asp Thr Lys Ile Asp  
370 375 380

Gly Tyr Asn Ile Pro Phe Lys Thr Arg Val Ile Val Asn Ala Trp Ala  
385 390 395 400

Ile Gly Arg Asp Pro Glu Ser Trp Asp Asp Pro Glu Ser Phe Ser Pro  
405 410 415  
Glu Arg Phe Glu Asn Ser Ser Val Asp Phe Leu Gly Ser His His Gln  
420 425 430  
Phe Ile Pro Phe Gly Ala Gly Arg Arg Ile Cys Pro Gly Met Leu Phe  
435 440 445  
Gly Leu Ala Asn Val Gly Gln Pro Leu Ala Gln Leu Leu Tyr His Phe  
450 455 460  
Asp Arg Lys Leu Pro Asn Gly Gln Ser His Glu Asn Leu Asp Met Thr  
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